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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/835,293	04/13/2001	Erich Strasser	56/350	4866
757 7590 02/14/2007 BRINKS HOFER GILSON & LIONE P.O. BOX 10395 CHICAGO, IL 60610			EXAMINER WASHBURN, DOUGLAS N	
			ART UNIT	PAPER NUMBER
			2863	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/14/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/835,293	STRASSER, ERICH	
	Examiner	Art Unit	
	Douglas N. Washburn	2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16, 18, 20, 21, 24, 26 and 27 is/are rejected.
- 7) ☒ Claim(s) 2-15, 17, 19, 22, 23 and 29-54 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1 The indicated allowability of claims 16-23 is withdrawn in view of the newly discovered reference to determining angular inclinations. Rejections based on the newly cited reference follow.

Response to Arguments

2 Applicant's arguments with respect to claims 16-54 have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 102

3 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 16, 18, 20, 21, 24, 26 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Gantz et al. (US 3,453,441) (Hereafter referred to as Gantz).

Gantz teaches:

Regarding claim 16, a linear position measuring system comprising at least one linear scale (longitudinally spaced reference marks; column 3, lines 70 and 71; figure 9, element 24);

In regard to claim 16, a scanning device (scanning means; column 4, line 57; figure 1, element 23) that moves relative to said at least one linear scale along a linear measuring direction (column 4, lines 59-64; figure 1);

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Regarding claim 16, an evaluation module comprising a first module (digital interpolator; column 4, line 56) for determining angular inclinations (column 6, lines 8-10; figures 10 and 11) of said scanning device with respect to said linear measuring direction from several measured position values (column 6, lines 24-27);

In regard to claim 16, a second module (interpolator logic system; column 12, lines 63-65) for determining a value for a chronological progression of several angular inclinations (column 13, lines 4-7);

Regarding claim 18, a scanning device comprises at least two scanning points (start position; column 12 line 68; Stop position; column 12, line 75) for scanning said at least one linear scale and for forming measured position values, and wherein said measured position values are provided to said evaluation unit (clock pulses are fed to a decimal counting unit 121, which counts the pulses and feeds to a digital display unit 122; column 12, lines 72-74) , which processes said measured position values in such a way that a value for said chronological progression of said angular inclinations is present at an output of said evaluation unit.

In regard to claim 20, the evaluation unit is integrated into said scanning device (The digital interpolator of the present invention basically comprises scanning means movably mounted on the housing 23; column 4, lines 56-58);

Regarding claim 21, at least one linear scale comprises two graduated tracks (figure 2), which are spaced apart from each other transversely to said measuring direction, and respectively one of said scanning points is assigned to one of said two graduated tracks (column 15, lines 6-9; figure 9);

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Regarding claim 24, detecting several angular inclinations of said scanning device in relation to said linear measuring direction of said at least one linear scale by detecting position measurements of said scanning device at several scanning points (Third indicating means, responsive to the first and second indicating means and the measuring means, serves to indicate the extent of movement of the scanning means between its first and second positions; column 4, lines 69-73);

Regarding claim 24, determining a value for a chronological progression of a change in angular inclinations of said scanning device from said detected several angular inclinations of said scanning device (The number of clock pulses counted in the interim between start and stop pulses provides a digital representation of the scale distance between the housing scale position and the scale mark; column 13, lines 4-7);

Regarding claim 24, generating an output signal representative of said determined value for said chronological progression of said change in angular inclinations of said scanning device (The number of clock pulses counted in the interim between start and stop pulses provides a digital representation of the scale distance between the housing scale position and the scale mark; column 13, lines 4-7);

Regarding claim 26, detecting several angular inclinations of said scanning device in relation to said linear measuring direction of said at least one linear scale by detecting position measurements of said scanning device at several scanning points (Third indicating means, responsive to the first and second indicating means and the measuring means, serves to indicate the extent of movement of the scanning means between its first and second positions; column 4, lines 69-73);

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Regarding claim 26, determining a value for a chronological progression of a change in angular inclinations of said scanning device from said detected several angular inclinations of said scanning device (The number of clock pulses counted in the interim between start and stop pulses provides a digital representation of the scale distance between the housing scale position and the scale mark; column 13, lines 4-7);

Regarding claim 26, issuing to a user a numerical value representative of said determined value for said chronological progression of said change in angular inclinations of said scanning device (The output of the discriminator circuit 228 is coupled to the counting unit 189 as indicated by arrow 233, so that the number of narrow marks counted is fed to the display unit 122 to indicate the proper number representing the millimeters digit; column 19, lines 32-37);

Regarding claim 27, detecting several angular inclinations of said scanning device in relation to said linear measuring direction of said at least one linear scale by detecting position measurements of said scanning device at several scanning points (Third indicating means, responsive to the first and second indicating means and the measuring means, serves to indicate the extent of movement of the scanning means between its first and second positions; column 4, lines 69-73);

Regarding claim 27, determining a value for a chronological progression of a change in angular inclinations of said scanning device from, said detected several angular inclinations of said scanning device (The number of clock pulses counted in the interim between start and stop pulses provides a digital representation of the scale distance between the housing scale position and the scale mark; column 13, lines 4-7);

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And regarding claim 27, graphically representing said determined value for said chronological progression of said change in angular inclinations of said scanning device (The output of the discriminator circuit 228 is coupled to the counting unit 189 as indicated by arrow 233, so that the number of narrow marks counted is fed to the display unit 122 to indicate the proper number representing the millimeters digit; column 19, lines 32-37).

Allowable Subject Matter

4 Claims 2-15, 17, 19, 22, 23 and 29-54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

Claim 2 recites, in part, "value of said chronological progression is determined as extreme values of said detected angular inclinations within a period of time". This feature **in combination with the remaining claimed structure** avoids the prior art of record.

Claims 5 and 9 depend from claim 2.

Claim 3 recites, in part, "value of said chronological progression is an oscillation range of said angular inclinations formed from extreme values of said detected angular inclinations". This feature **in combination with the remaining claimed structure** avoids the prior art of record.

Claims 6 and 10 depend from claim 3.

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Claim 4 recites, in part, "forming differential values between the simultaneously detected first and second measured position values at both said first scanning point and said second scanning point". This feature **in combination with the remaining claimed structure** avoids the prior art of record.

Claims 7, 8 and 11-15 depend from claim 4.

Claim 17 recites, in part, "second module comprises a memory device, in which extreme values from several successive angular inclinations are stored". This feature **in combination with the remaining claimed structure** avoids the prior art of record.

Claim 19 depends from claim 17.

Claim 22 recites, in part, "at least one linear scale comprises a first linear scale that is arranged parallel, with a second linear scale on a first machine element, and said at least two scanning points are arranged on a second machine element, wherein said first and second machine elements form a gantry structure". This feature **in combination with the remaining claimed structure** avoids the prior art of record.

Claim 23 recites, in part, "first module and said second module are formed in a common component". This feature **in combination with the remaining claimed structure** avoids the prior art of record.

Claim 29 recites, in part, "value of said chronological progression is determined as extreme values of said detected angular inclinations within a period of time". This feature **in combination with the remaining claimed structure** avoids the prior art of record.

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Claim 30 recites, in part, "value of said chronological progression is an oscillation range of said angular inclinations formed from extreme values of said detected angular inclinations". This feature **in combination with the remaining claimed structure** avoids the prior art of record.

Claims 33 and 36 depend(s) from claim 30.

Claim 31 recites, in part, "forming differential values between the simultaneously detected first and second measured position values at both said first scanning point and said second scanning point". This feature **in combination with the remaining claimed structure** avoids the prior art of record.

Claims 34, 35 and 37-41 depend from claim 31.

Claim 32 recites, in part, "forming differential values between the simultaneously detected first and second measured position values at both said first scanning point and said second scanning point". This feature **in combination with the remaining claimed structure** avoids the prior art of record.

Claim 42 recites, in part, "value of said chronological progression is determined as extreme values of said detected angular inclinations within a period of time". This feature **in combination with the remaining claimed structure** avoids the prior art of record.

Claim 45 depends from claim 42.

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Claim 43 recites, in part, "value of said chronological progression is an oscillation range of said angular inclinations-formed from extreme values of said detected angular inclinations". This feature **in combination with the remaining claimed structure** avoids the prior art of record.

Claims 46 and 49 depend from claim 43.

Claim 44 recites, in part, "forming differential values between the simultaneously detected first and second measured position values at both said first scanning point and said second scanning point". This feature **in combination with the remaining claimed structure** avoids the prior art of record.

Claims 47, 48 and 50-54 depend from claim 44.

It is these limitations, which are not found, taught or suggested in the prior art of record, and are recited in the claimed combination that makes these claims allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas N. Washburn whose telephone number is (571) 272-2284. The examiner can normally be reached on Monday through Thursday 6:30 AM - 4:30 PM.

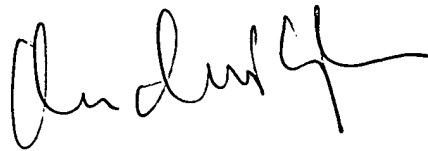
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DNW



MICHAEL NGHIE
PRIMARY EXAMINER